

ENERGY: WHY IT SHOULD BE INCLUDED IN PLANNING

NH Office of Energy and Planning

12th Annual Planning and Zoning
Conference

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THE BIG PICTURE

- US: 5% of world population
- US: 25% of world energy demand
- US Imports 61% of its petroleum (was 54% in 1970s)
- Global oil production capacity exceeds demand by about 1.5%
- Growing worldwide competition for energy that was once “ours”

NH PETROLEUM FUEL CONSUMPTION, 2003

- 3.9 Million gallons per day
(US is 850 Million/day)
- 1.4 Billion gallons per year

**All NH FOSSIL FUELS- COAL, PETROLEUM
PRODUCTS, NATURAL GAS – ARE
IMPORTED TO THE STATE!**

NH POPULATION GROWTH & FOSSIL FUELS USE

PEOPLE Millions		LIQUID FUELS Million Gallons		NAT GAS Billion Cu Ft	
1960	2003	1960	2003	1960	2003
0.6	1.3	626	1,441	3	54.5
Dif: 212%		Dif: 230%		Dif: 1800%	

NH FOSSIL FUEL COSTS, 2001- DOE EIA ESTIMATE

\$2 Billion

Of Which

\$1.4 Billion

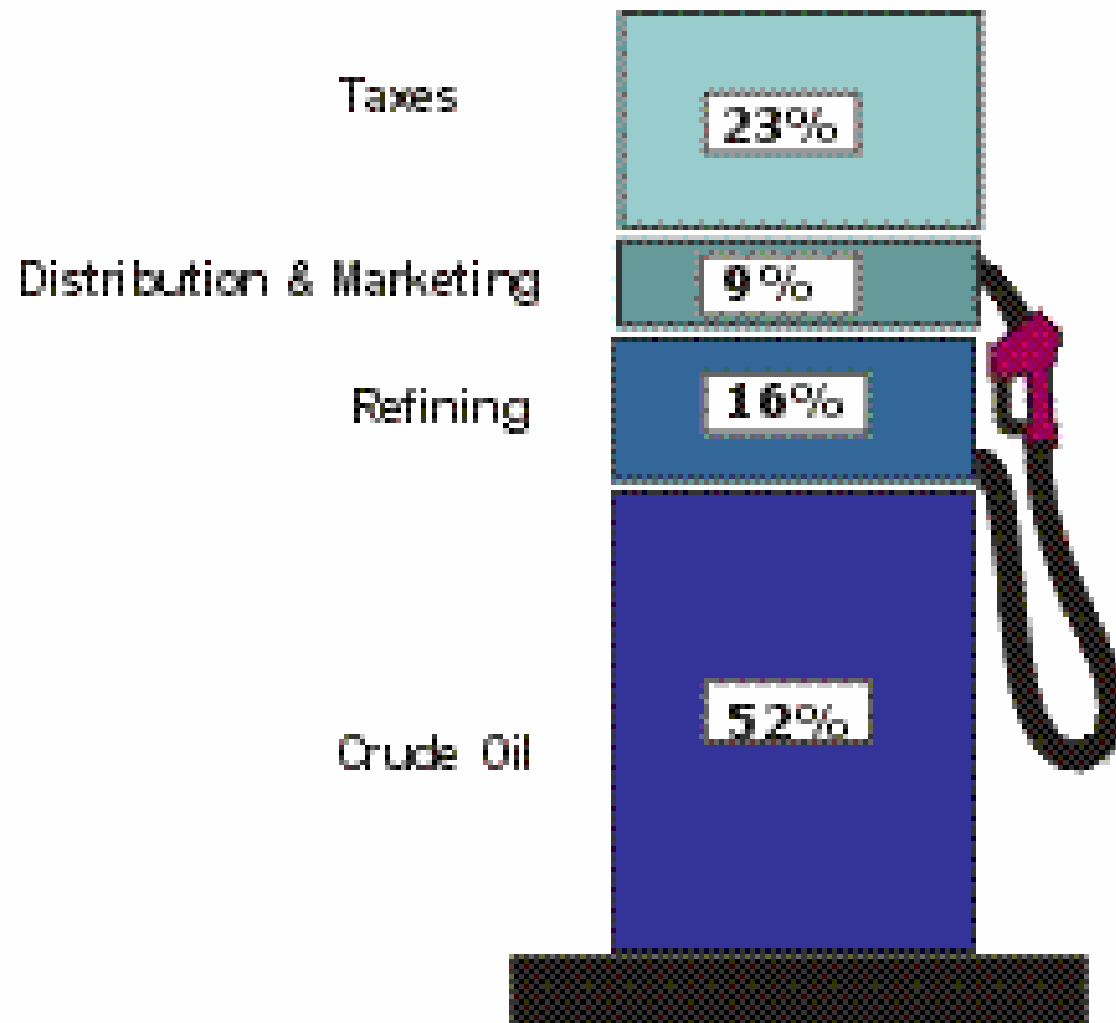
(70%)

**was exported from NH
(conservative OEP estimate)**

What We Pay For In a Gallon of Regular Gasoline

(February 2005)

Retail Price: \$1.91/gallon



ENERGY USE IMPACTS

- Economy
- Environment
- Health
- Energy Security/Assurance

ECONOMIC IMPACTS 1

- Most energy jobs are out of state
- Most energy dollars (about \$1.5 billion/yr) leave the state
- Energy costs: an invisible “tax” on everything we do, yet:
- Half the energy we buy is avoidably wasted (“tax and waste”?)
- Globalized energy markets plus many interacting factors lead to

Price Volatility

ECONOMIC IMPACTS 2

■ *Price Volatility*

- Impairs budget planning
- Can lead to budget shortfalls

■ Higher Energy Prices

- Drive tax increases
- Reduce municipal services
- Export more dollars and jobs
- ***GENERATE INTEREST IN RENEWABLE ENERGY PROJECTS, WITH PLANNING IMPLICATIONS***

ECONOMIC IMPACTS 3

Renewable energy projects can impact

- Infrastructure
 - Roads, traffic
 - Transmission lines
- Tax base
- Demand for services
- Relationships with other towns
- Community identity

ENVIRONMENTAL IMPACTS

- Visual amenity, soundscape
- Water bodies, forests, fields
- Wildlife
- Air quality
- Local and Global Climate

HEALTH IMPACTS

- Irritating and mutagenic components of air pollution
- NH asthma rate higher than US (and *not* correlated with smoking!)

ENERGY SECURITY/ ASSURANCE IMPACTS

- Everything works well ...*usually!*
- We rarely think of:
 - Complex global energy system
 - Weather interfering with ships, barges, driver hours of service
 - Shipping time constraints for new anti-terror measures
 - ***What happens if...***

PLAUSIBLE INFERENCES

STATUS QUO is
COSTLY
RISKY
WASTEFUL
UNPREDICTABLE
UNTENABLE!

ENERGY'S CONNECTION TO PLANNING (BROADLY DEFINED)

- “Untenable” results in change
- What you will be *forced* to do or to accept depends on how well you *plan*
- Energy planning stabilizes budgets
- Energy planning aids local control
- Your town as a world citizen: Doing well while doing good

SO...

2 BASIC APPROACHES to ENERGY PROBLEMS

- Reduce the demand
- Increase the supply

(Not “either/or” but both/and”)

REDUCING DEMAND

COMPARED TO INCREASING SUPPLY:

- Less costly
- More efficient use of tax revenues
- Less damaging to environment
- More sustainable
- Less vulnerable to geopolitics
- Less impacted by market dynamics
- More money/jobs stay in NH
- More achievable by cities/towns

INCREASING SUPPLY

- Indigenous - NH Sources
- Diverse - Many types
- Renewable - Assured supply

- *However-*

RENEWABLES CAN'T MEET ALL NH ENERGY NEEDS

- Replace Seabrook generation capacity?
Build 116 wind farms of 10MW each
- Replace NH fossil - fueled generation capacity? Build 234 more wind farms

-OR-

- Build 535 acres of PV to replace all NH fossil and nuclear generation capacity

AND THIS IS JUST FOR ELECTRICITY!

CAPACITY IS NOT SAME AS GENERATION

- Sun does not always shine
- Wind does not always blow
- Down time for maintenance

Therefore, previous examples are greatly understated!

SOME WAYS TO SHAPE OUR ENERGY FUTURE

- Conservation – using less
- Efficiency – helps us to use less
- Indigenous renewables mix
- More NH ownership of energy supply chain
- ***INCLUDE ENERGY IN PLANNING EFFORTS!***

WHAT YOU CAN DO!

- Address and discuss energy issues in your **Master plan**
- Amend your **Zoning Ordinance** and other regulations to include energy facilities siting and installation considerations
- **Possible “Municipal Service District”**
- Comply with state building energy codes:

www.puc.state.nh.us/EnergyCodes/energypg.htm

WHAT ELSE!

- **Adopt municipal policies such as:**
 - Renewable energy property tax exemptions: [RSA 72:61-72; 72:27-a](#)
 - Solar skyspace easements: [RSA 477:49-51](#)
 - Energy-efficient vehicles purchase and maintenance policies
 - EnergyStar and other “green” criteria for public buildings – new and renovations: www.energystar.gov/

AN INSURMOUNTABLE OPPORTUNITY?

- What difference can your town make against such a challenge?
- Can it ever be enough?
- Can it be done in time?
- How can you solve the problem alone?

- NO CERTAIN ANSWERS, BUT NOT TRYING ASSURES FAILURE!

YOUR INTEGRITY DEMANDS AN EFFORT

- Need to act on your convictions
- Your stewardship obligation
- *Success breeds success*

*THERE IS REALISTIC CAUSE
FOR OPTIMISM: YOU ARE FAR
MORE POWERFUL THAN YOU
THINK!*

THE REVERSE MULTIPLIER and the GLOBAL WEB OF LIFE

- US per capita energy use is 25x India's; 60x that of poorest nations.
- Vibrations in the global web impact us; we can create vibrations that spread out globally across that web.
- Seemingly small local actions have very large global repercussions!

ENERGY PLANNING WILL MAKE A DIFFERENCE HERE

It will:

- Save money
- Improve stewardship of taxpayer money
- Improve public health
- Improve energy development decisions
- Improve budget planning
- Inspire other communities to act likewise
- Promote energy security and assurance
- Create more local jobs

... AND GLOBALLY

Helping to address issues of:

- Climate change
- Ecological sustainability
- Environmental justice
- Social justice
- Economics
- Politics

AND BEST OF ALL...

ENERGY PLANNING WILL PROVIDE A
SUSTAINABLE FUTURE FOR OUR:

- COMMUNITIES
 - STATE
 - CHILDREN
-

**NEXT: IT REALLY WORKS! WHAT ONE
NEW HAMPSHIRE CITY IS ALREADY
DOING...**

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